



PROJECT:
Wingate Residences
Haverhill

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PAGE: 1/2

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WQV calculations

Bioretention Area A

Contributing Impervious Area = 8705 SF

$$* \text{ WQV} = 8705 \text{ SF} \times 0.5 \text{ in}/12 = 363 \text{ CF} *$$

(req'd)

$$\begin{aligned} \text{bottom of area A} &= 133.5 \\ \text{elev. @ spillway} &= 134.25 \end{aligned} \quad \left. \begin{aligned} & \text{volume provided} = 476 \text{ CF} \\ & \end{aligned} \right\}$$

476 CF > 363 CF ∴ adequate WQV storage is provided

Bioretention Area B

Contributing Impervious Area = 17,494 SF

$$* \text{ WQV} = 17494 \text{ SF} \times 0.5 \text{ in}/12 = 729 \text{ CF} *$$

(req'd)

$$\begin{aligned} \text{bottom of area B} &= 124.0 \\ \text{elev. @ spillway} &= 125.45 \end{aligned} \quad \left. \begin{aligned} & \text{volume provided} = 1,975 \text{ CF} \\ & \end{aligned} \right\}$$

1,975 CF > 729 CF ∴ adequate WQV storage is provided

Sediment Forebay

Contributing Paved Area = 39,987 SF
" Roof Area = $\frac{11,429}{36,623}$ SF

Min. Forebay volume = 0.1" per impervious acre
= $0.1/12 \times 36,623$
= 305 CF

bottom of forebay = 104.00
elev. @ spillway = 106.50 } volume provided = 1,791 CF

1,791 CF > 305 CF ∴ sizing is adequate